

Family planning technical services in China

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Abstract Family planning is a basic state policy in China. Its aim is to control population growth and to enhance population quality. Technical services are the key measures for implementing the family planning policy. In order to ensure that people use safe, effective, and appropriate contraceptive methods based on the government's commitment, China has established countrywide family planning service networks down to the township level. The people can access various and convenient contraceptive services. In urban areas, all contraceptive services are free. The contraceptive prevalence rate in 2007 was 84.6%, the percentage of intrauterine device (IUD) was 52.3%, that of female sterilization was 32.3%, and that of vasectomy was 6.1%. This means that more than 90% of married childbearing couples were using long-term contraceptives. At the same time, the government gives priority to supporting research on contraceptive technology. Studies' results have provided scientific evidence for development, introduction, and expansion of contraceptive methods, and also for establishment and revision of the technical guidelines. Great efforts have been made in promoting "human-oriented and client-centered" services during the recent ten years. Remarkable success has been achieved in improving the quality of technical services.

Keywords family planning; contraceptive method; service delivery

1 Introduction

China is a developing country with the largest population in the world. Family planning is a basic policy of the state. Its aim is to control population growth and to enhance population quality (in terms of health and education).

2 Technical services are the key measure for implementing the family planning policy

To implement the family planning policy, one of the Chinese government's commitments is to promote voluntary family planning, safeguard the right of citizens to an informed choice on safe, effective, and appropriate contraceptive methods, and have the government provide basic family planning technical services to people of child-bearing age free of charge. Since the 1970s contraceptives have been distributed free of charge, and since the 1980s the supply channels have been widened by combining them with retail sales in the marketplace. To ensure ready availability of contraceptives, China has established countrywide family planning service networks which are supported by the Ministry of Health (MOH, including hospitals, maternity and child health centers, MCH) and National Population and Family Planning Commission (NPFPC), China. Affiliated with NPFPC, a nationwide Family Planning (FP)/Reproductive Health (RH) public service system that spreads over rural and urban areas has been established, consisting of more than 37 000 counties and township family planning service stations (FPSS), 150 000 service providers and nearly a million community volunteers. They provide people, especially rural people, with reliable public services, such as delivery of contraceptive services, distribution of contraceptives, provision of RH check-ups and counseling services, and communication and dissemination of RH/FP knowledge and information (Table 1). Following the principle of catering to grass-roots units, going deep into the countryside, offering services to people's doorsteps and providing convenient services to the people, family planning workers provide people with guidance, advice, and services, and help them select the most appropriate contraceptive methods depending on their health and needs. The production of contraceptives from more than 40 domestic factories makes China basically self-sufficient in this necessary commodity.

With 30 years of effort, China has achieved a historic transition in its population reproduction pattern. Its total fertility rate (TFR) declined from 5.8 at the beginning of

Table 1 Provision of family planning services

administration levels	Ministry of Health	National Population and Family Planning Commission
state	maternity and child health center	research institute (3)
province	hospital	research/technical instruction institute (< 30)
prefecture	maternity and child health station	
county		family planning service center/station
township	health care station	
village	village doctor	family planning worker

Table 2 Service content by level

	county	central-township	township	village
intrauterine device	+	+	+	-
male sterilization	+	+	±	-
female sterilization	+	+	±	-
injectables	±	±	-	-
oral contraceptives	±	±	+	+
implant	+	-	-	-
medical-abortion	+	-	-	-
vacuum aspiration	+	+	+	-

+: Generally, this service could be provided in all the facilities at this level; -: generally, this service could not be provided in the facilities at this level; ±: some facilities could provide this services and others could not at this level.

the 1970s to around 1.8 at present, lower than the replacement level. As such, China is effectively mitigating the pressure of population growth on the economy, society, resources, and the environment. Meanwhile, China has witnessed a remarkable improvement in its population quality. The average life expectancy at birth in China has risen to 73 years, hospital delivery rate is up to 91.6%, maternal mortality ratio is down to 36.6/100 000, and infant mortality rate is down to 15.3%, while the health status of women, children, and elderly people has been remarkably improved.

3 The main contraceptive methods

The contraceptive prevalence rate (CPR) among married couples of child-bearing age throughout China is approximately 85%. Table 3 shows the percentage of the different contraceptive methods adopted by married couples [1]. The most popularly used contraceptive methods are the intrauterine device (IUD) and tubal ligation. Men are encouraged to take their responsibility in family planning, with the overall percentage of vasectomy being 6%, although in some provinces the numbers are much higher.

Oral contraceptive pills are mainly used by nulliparous women. Condoms and spermicides are the most commonly accepted by the more highly educated couples.

Table 3 Contraceptive methods mix in China

contraceptive methods	percentage
intrauterine device	52.30
female sterilization	32.25
vasectomy	6.14
oral contraceptives	1.22
implant	0.33
condom	7.38
spermicide	0.21
others	0.17

3.1 IUD

The typical IUD in China is the inert stainless steel ring. It was officially omitted in 1993 due to its higher pregnancy rate (more than 10/100 women per year) and expulsion rate (14 per 100 women year) [2]. Copper bearing IUDs have been promoted since the 1980s. Except for TCu220C, TCu380A and MLCu375IUD, which were introduced and manufactured in China, more than ten types of local IUDs have been developed. The most popularly used IUD is a uterine shaped IUD with the surface area of copper 200 or 300 mm². The memory alloy is also used to make the frame. The V shaped memory alloy IUD (M functional IUD) has shown a lower expulsion rate [3]. To solve the bleeding side effects, several medicated IUDs containing indomethacin were successfully developed, such as γ -IUD, medicated uterine shaped IUD and medicated GyneFix IUD, *etc.* The increment of menstrual blood loss after insertion of the conventional IUD could be well controlled by using them [4,5]. The levonorgestrel releasing (LNG) IUD, GyneFix IN and PP IUD have also been introduced to China.

3.2 Sterilization

Sterilization is encouraged for either the wife or husband in a couple having two children. The routine method for tubal

ligation is minilaparotomy with local anaesthesia. Burying the proximal end of the cut tube into the mesosalpinx is recommended as a routine approach. Silver clips are used in some provinces to achieve tubal occlusion. The silver clip is made of 99.96% silver and is U shaped. When applied with a specially designed forceps, the failure rates are approximately 0.08%–2.0%, depending upon the time of operation and types of clips [6,7]. The main advantage of this method is the higher success rate of anastomosis due to the limited damage to the tissue. Laparoscopy is only available in some hospitals and clinics in urban areas. Non-surgical approaches such as chemical and polymer occlusion are well accepted in rural areas because the women do not view such a noninvasive approach as an operation. In practice, the failure rates of such methods differ greatly and depend upon the skill of the operator. However if recanalization is needed, the significant tissue adhesion and damage make it almost impossible. Since women now undergoing sterilization are at a younger age and have fewer children than before, the NPFPC is trying to develop new reversible methods.

3.3 Steroid contraceptive methods

Most of the steroidal contraceptive methods used internationally are available in China. The low-dose combined oral contraceptives (COCs) were developed as early as 1967. The levonorgestrel COCs are the main products available for free. Both monophasic and triphasic pills are available. The Norgestrel compound contains Norgestrel 12 mg and Quinestrol 3 mg in one tablet. This is a monthly pill. It is well accepted by rural women because of convenience. However, due to concerns regarding its safety, the product has been withdrawn from the government procurement list. The visiting pills are a unique product in China. They are used by couples who are living in different places; the pill can be taken at any day of the menstrual cycle. The progesterone-only visiting pills are safe and effective. There are two kinds of emergency contraceptive pills (ECP), one is levonorgestrel, and the other is mifepristone; more than ten products are available in the market. As a result of the inadequate use of regular contraceptive methods among young people in urban areas, the large amount of ECP usage has been a concern. All oral contraceptives (OC) can be accessed over the counter, and some of them are free. Unfortunately, only a limited number of women use the OCs. One of the main reasons for that is lack of knowledge regarding the pills.

Domestically produced contraceptive implants in the form of six capsules and two rods are available. However, the use of implants is not popular, accounting for only 0.3% [1] owing to the bleeding problem. Clients and providers hardly endure the side effect, although the contraceptive efficacy is higher than IUD and the insertion is quite easy.

Combined and progesterone only injectables also lack use. Those are less convenient compared with OCs. Depot

medroxyprogesterone acetate (DMPA) is recommended to breast feeding women for temporal use. However, clients need to pay for it and it is not always available.

Other steroid releasing contraceptives, such as the vaginal ring and subdermal patch, have not been registered in China.

3.4 Other methods

The male condom is the main currently available barrier method. Its usage increased obviously due to the intensive demand for protection against sex transmitted infections (STI). Male condoms can be provided by machines that are allocated near public areas. A small amount of latex female condoms has been produced, but its market has not been built up. Spermicide products are abundant; the most acceptable form is the suppository.

4 Termination of unwanted pregnancy

Vacuum aspiration for termination of early pregnancy was invented by a Chinese gynecologist in the late 1950s. It has been used worldwide. The process could be performed even by experienced nurses or midwives; thus it is accessible down to the facilities of the township level.

Mifepristone was introduced for termination of early pregnancy in China in the 1980s. The domestically produced mifepristone was registered for the termination of pregnancy up to gestation of 49 days in 1993. Medical abortion became more popular soon after that.

The commonly accepted regimens are 150 mg mifepristone administered in several small doses or a single 200 mg dose followed by 0.6 mg oral misoprostol. Complete abortion rates are 90% to 97%. Ultrasound is strongly recommended to rule out ectopic pregnancy. Patients remain in the clinic for four to six hours after oral misoprostol. If the fetal sac is not expelled during the four-hour observation, the second dose of 0.4 mg misoprostol is given in many of the clinics. Rates of emergency curettage have ranged from less than 1% to 4%, and the rate of blood transfusion is less than 1%. The major complication of concern is an undiagnosed ectopic pregnancy. The Chinese experience has shown that medical abortion is safe and effective when provided under medical supervision and administrative monitoring [8].

5 Research support technical services

In order to ensure that people use safe, effective and appropriate contraceptive methods based on the government's commitment, the government gives priority to supporting research on contraceptive technology. Since "The Sixth Five-Year Plan," the Ministry of Science and

Technology continued to support a large number of national key projects involving clinical epidemiology and related basic research on various contraceptive methods. The development, introduction and expansion of contraceptive methods and products were based on reliable evidence obtained from the research.

Well-known studies include a series of studies on IUD (including its effectiveness, safety, and prevention/treatment of side effects or complications) [9–11], the introduction of subdermal implants [12,13] and medical abortions [14,15], *etc.* Over the past decade, operational research was also applied to research on service delivery. At the same time, international collaborative research projects were also actively carried out, such as studies on the non-abortion use of mifepristone. The results provided important evidence for emergency contraception in its development and application [16,17]. Thanks to its close cooperation with the World Health Organization (WHO) since the 1980s, China has achieved high-quality research results in the field of family planning. Through participation in multi-center clinical and epidemiological studies, the research staffs and family planning service providers learned research methods, accumulated experience and enhanced their capacity in research and service delivery.

6 Improving the quality of the services

Since 1995, the national project “Quality of Care” was initiated to promote changes in the working concepts and approaches in RH/FP. Great effects have been made in promoting the “human-oriented and client-centered” concept and providing standardized and intergraded RH/FP quality service to clients according to their needs. Since then, especially during the recent ten years, remarkable success has been achieved in the improvement of service delivery capability of service providers, and improvement of service protocol standards, facilities and equipment. Also, the scope of RH/FP service has also been expanded. To improve service accessibility and availability in remote rural areas, the central government has allocated special funds to each county in central and western China. The long term effort has resulted in the establishment of an RH/FP public service system that spreads over rural and urban areas nationwide.

The “client-centered” services not only mean medical treatment, but also include provision of information services. Health educational and counseling services have played more and more important roles. Counseling skill training has been incorporated into staff development planning at all levels of Population and Family Planning Commission. National professional certification of reproductive health consultants has become a component of NPFPC professional building. The four cornerstones of evidence-based family planning technical guidelines of the WHO has been widely applied in the grass-roots family

planning service stations to improve the quality of counseling services for informed choice.

To achieve the goals of China's population development, the effect of family planning technical services should not be overlooked; methods and products of contraception need to be continuously improved and updated, and service quality needs to be improved continuously, in order to meet the needs of countries and the people.

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